PROJECT NUMBER: 2525
PROJECT TITLE: Tobacco Chemistry
PROJECT LEADER: R. R. Izac
PERIOD COVERED: June, 1988

I. NATURAL PRODUCTS CHEMISTRY

A. **Objective**: To isolate, identify and/or analyze natural compounds with major emphasis on tobacco and tobacco products.

B. **Results**: Separations of a Bright tobacco subfraction using countercurrent chromatography (CCC) were continued this month. Two on the semi-preparative column (1.6mm I. D., 320 mL capacity) and two on the preparative column (2.6mm I. D., 390 mL capacity).

C. **Plans**: Continue fractionation of Bright tobacco extract fractions and purification of specific compounds.

D. **References**:
1. Core, M. Notebook No. 8608.

II. LOW NICOTINE

A. **Objective**: To examine characteristics of unextracted nicotine.

B. **Results**: Grafted tobacco on a tomato rootstock appears to contain only extractable nicotine. A study of nicotine in grafted material was proposed. Seeding of the plants was begun.

C. **Plans**: Continue to investigate genetic and cultural factors which influence the amount of unextracted nicotine in tobacco materials.

D. **References**: 1. Izac, R. Notebook No. 8632.

III. GREENHOUSE STUDIES

A. **Objective**: To maintain the R&D greenhouses, to conduct plant research studies and to provide greenhouse-grown tobacco materials for support of other R&D programs.

B. **Results**: The harvest of roots from Group 12 of the hydroponic Burley 21 plants has begun. Beginning with Group 13, there will be 52 plants grown per group. Group 13 was placed in hydroponic culture and all plants show good color and growth.

The Oriental plants (Samsun) at the Whiteville, N.C. Tobacco Research Station continue to do well. This study is for the production of U.S. grown Oriental tobacco under specified cultural practices.

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The greenhouse maintenance operations including seeding, transplanting, nutrient solution preparation and other cultural tasks were completed.

C. **Plans**: Increase production of fresh root tissue by hydroponic culture. Monitor the field plots as needed.

D. **References**:
1. Bass, R. Notebook No. 8607.
2. West, G. Notebook No. 8559.

V. SUPPORT ACTIVITIES

A. **Objective**: To provide requested assistance for special projects.

B. **Results**: 1. About 180g of CR 2085 was synthesized. 2. Seven central pith wood core cigarettes were hand made for smoking studies. The cigarettes contained 2R1 filler with a 4mm x 85mm elder wood pith core. Three cigarettes containing radioactive components were prepared for smoking studies.

C. **Plans**: Continue production of CR 2085 (200g required).

D. **References**:
1. Izac, R. Notebook No. 8632, p. 20.

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